



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,438	02/23/2004	Duc Chinh Tran	GK-OEH-178 / 500814.20080	2524
26418	7590	09/14/2005	EXAMINER	
REED SMITH, LLP ATTN: PATENT RECORDS DEPARTMENT 599 LEXINGTON AVENUE, 29TH FLOOR NEW YORK, NY 10022-7650			RUTLEDGE, DELLA J	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/784,438

Applicant(s)

TRAN ET AL.

Examiner

D. Rutledge

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawing filed 23 February 2004 are acceptable.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 – 5, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Singer et al. (US Pat. No. 6,927,403).

The reference discloses an arrangement for debris reduction in a radiation source based on plasma comprising:

A radiation – generating plasma, as source location (1) - claim 1

Collector optics (300.1) - claim 1

Debris filter – (a foil trap 302) - clm 1

Art Unit: 2851

Exchangeable additional optics – having reflective grazing incidence (3), ellipsoid, hyperboloid, EUV range; see col. 9, lines 35 – 39; col. 6, lines 11 – 16; col. 4, lines 48 – 50 - claims 1 – 5, 7, 8

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 9 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singer et al. (US Pat. No. 6,927,403) in view of Parto et al. (US Pat. No. 6,064,072). In col. 4, lines 39 – 47, the reference states that “a grazing incidence mirror typically does not require a multi - layer coating. Therefore, the grazing incidence collectors are less susceptible to degradation from debris.” Note, that the reference says that ***typically*** a multi – layer coating is ***not required***. Partlo et al. (cited in the Singer et al.

Art Unit: 2851

reference in col. 2) disclose in the Partlo et al. reference col. 4, line 57 to col. 5, line 38, teach to use a metal coated grazing incidence mirror that can minimize the degradation problem. One of ordinary skill in the art at the time the invention was made would be motivated to use grazing incidence mirrors having multi – layer coating of materials such as palladium and ruthenium which have high reflectivity in the EUV range, as taught by Partlo et al. in the cited column lines.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singer et al. (US Pat. No. 6,927,403) in view of Parto et al. (US Pat. No. 6,064,072).

The Singer et al. discloses a system having the features claimed, but uses ellipsoid and hyperboloid shapes for the additional optics. One of ordinary skill in the art would recognize that other shaped may be used to control the radiation and would have used other arrangements for controlling the debris. Partlo et al. use a paraboloid shape in the same environment, namely to control debris and uses two collectors. One of ordinary skill in the art would have motivated to used different shape or a combination of shaped to control the debris and therefore would have been motivated to use a paraboloid shape for the additional collector.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barbee, Jr. et al. (US Pat. No. 6,278,764 uses grazing incidence mirror of paraboloid, ellipsoid, hyperboloid or polynomial shell using multi-layer coating

Art Unit: 2851


see col. 4, lines 31 – 42 and col. 5, lines 37 to col. 6, line25; and Bakker et al. (US Pat. No. 6,859,259) discloses grazing incidence collector in the EUV radiation range.

Response Data

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Rutledge whose telephone number is (571) 272-2127. The examiner can normally be reached on Mon - Thurs, 6:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


D. Rutledge
Primary Examiner
Art Unit 2851

dr
9/9/05